

REMARKS

Applicant respectfully requests reconsideration of the above identified application. Claims 1-21 are pending. Claims 1-7, 9-14, 20 and 46 are rejected. Claims 8, 11, 15 and 21 are objected to.

The Final Office Action rejects Claims 1-2, 4-5, 7, 9-10, 14, 16-17 and 19-20 under 35 U.S.C. 102(e) as allegedly being anticipated by U.S. Patent 6,735,228 (Tsai).

Applicant respectfully disagrees. In order for a rejection based on anticipation to be maintained, the identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Examiner has failed to establish a prima facie case of anticipation.

Claim 1 sets forth a method comprising: generating a digital voltage sequence; converting the digital voltage sequence to a first current signal having an adjustable bias mode and a modulation mode; adjusting the bias mode of said first current signal through one or more bias control input; and driving a first laser using said first current signal to generate a first optical signal transmission.

The Final Office Action indicates that an adjustable bias mode and a modulation mode are disclosed by the current outputs of Q312 (IH1) and Q322 (IL1), but these are clearly two different current outputs rather than one current signal having an adjustable bias mode and a modulation mode as set forth in Claim 1.

Tsai further discloses (emphasis added) that the predetermined current IL is a bias current of the light-emitting device (Fig. 2a; col. 4, lines 2-3) and that point B in Figure 2B is the predetermined current IL (Fig. 2B; col. 4, lines 11-12). Tsai states that the control circuit 300 adjusts the gate voltage Vg according to the predetermined current IL provided by the current source 324 (Fig. 3; col. 4, lines 60-62). Therefore, Applicant respectfully submits that Tsai does not disclose a first current signal having an adjustable bias mode and a modulation mode, but rather a current signal with a predetermined bias current, which is fixed.

Of course, the current I_{out} of Tsai must be adjusted between the bias mode and the modulation mode to drive LD302 (Fig. 3) but that disclosure alone does not anticipate adjusting the bias mode of said first current signal as is set forth in Claim 1.

Accordingly, Applicant requests the Examiner withdraw the rejection of Claim 1 under 35 U.S.C. 102(e).

Similarly, Claim 4 sets forth a method comprising: generating a digital voltage sequence; converting the digital voltage sequence to a first current signal having a bias mode and an adjustable modulation mode; adjusting the modulation mode of said first current signal through one or more modulation control input; and driving a first laser using said first current signal to generate a first optical signal transmission.

As presented above, the current outputs of Q312 (IH1) and Q322 (IL1) are clearly two different current outputs rather than one current signal having a bias mode and an adjustable modulation mode as set forth in Claim 4.

Tsai also discloses that point A in Figure 2B is the predetermined current I_H corresponding to the high level of the gate voltage V_H (Fig. 2B; col. 4, lines 9-11). Tsai states that the comparison circuit 310 makes the output current I_{H1} equal to the predetermined current I_H provided by the current source 314 (Fig. 3; col. 4, lines 47-49). Therefore, Applicant respectfully submits that Tsai does not disclose a first current signal having a bias mode and an adjustable modulation mode, but rather a current signal with a predetermined current I_H that is the sum of a predetermined bias current and a predetermined modulation current, both of which are fixed (Fig. 2A; col. 4, lines 3-5).

Accordingly, Applicant requests the Examiner withdraw the rejection of Claim 4 under 35 U.S.C. 102(e).

Claim 7 sets forth an optical device driver comprising: a buffered level shifter circuit to shift an input voltage to a first voltage level or to a second voltage level; a modulation circuit to generate a first current signal of a modulation mode responsive to the input voltage of the first voltage level and to generate the first current signal of a bias mode responsive to the input voltage of the second voltage level; a bias control circuit to adjust the bias mode of said first current signal through one or more bias control inputs; and a modulation control circuit to adjust the modulation mode of said first current signal through one or more modulation control inputs.

Similarly, Claim 14 sets forth an optical signaling system comprising: a digital electronic interface to transmit a digital voltage input sequence; a buffered level shifter circuit to shift an input voltage to a first voltage level or to a second voltage level responsive to the digital voltage input sequence; a modulation circuit to generate a first current signal of a modulation mode responsive to the input voltage of the first voltage level and to generate the first current signal of a bias mode responsive to the input voltage of the second voltage level; a bias control circuit to adjust the bias mode of said first current signal through one or more bias control inputs; a modulation control circuit to adjust the modulation mode of said first current signal through one or more modulation control inputs; and a laser to generate an optical signal responsive to the first current signal.

Since the current outputs of Q312 (IH1) and Q322 (IL1) are clearly two different current outputs, a modulation circuit to generate a first current signal of a modulation mode responsive to the input voltage of the first voltage level and to generate the first current signal of a bias mode responsive to the input voltage of the second voltage level and a bias control circuit to adjust the bias mode of said first current signal is not disclosed by Tsai in as complete detail as is contained in Claims 7 and 14.

Accordingly, Applicant requests the Examiner withdraw the rejection of Claims 7 and 14 under 35 U.S.C. 102(e).

With regard to Claims 2, 5 and 19-20, for the same reason given above, Applicant respectfully submits that Tsai does not show the identical invention in as complete detail as is contained in the claims.

With regard to Claims 9 and 16, Applicant respectfully submits that the Examiner has failed to explain how the alleged current in modulation mode (IH1) flows through Tsai's alleged first nMOSFET (below Vcc in 420) and second nMOSFET (Q507) as set forth in Claim 9. Moreover, the Examiner has failed to explain how the alleged current signal in modulation mode (IH1) flows between Tsai's laser (LD401), his alleged first nMOSFET (below Vcc in 420) and second nMOSFET (Q507) as set forth in Claim 16. The devices of Tsai do not seem to be connected in such a way as to permit the alleged current flow. Therefore, the Examiner has failed to establish a prima facie case of anticipation.

With regard to Claims 10 and 17, Applicant respectfully submits that Tsai does not disclose or suggest that Q508 reduces an overshoot of the first current signal as suggested. The Examiner states that as all of the elements of the claimed invention have been disclosed by Tsai, Q508 would then function as found in the claim.

It was explained recently in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313; 75 USPQ2D (BNA) 1321 (Fed. Cir. 2005): "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification."

Applicant respectfully submits that all of the elements of the claimed invention have not been disclosed by Tsai. For example, Tsai's alleged first nMOSFET (below Vcc in 420) and second nMOSFET (Q507) are not even connected to Tsai's alleged third nMOSFET (Q508). How then would it be possible for Q508 to function as set forth in Claims 10 and 17?

Accordingly, Applicant requests the Examiner withdraw the rejection of Claims 2, 5, 9-10, 16-17 and 19-20 under 35 U.S.C. 102(e).

The Final Office Action rejects Claims 3 and 6 under 35 U.S.C. 103(a) as allegedly being unpatentable over Tsai in view of U.S. Patent 5,978,393 (Felderman) stating that it would have been obvious to combine the method of Tsai with an additional diode laser to increase transmission capabilities of the system and drive the laser with the converted clock signal of Feldman to reduce the amount of noise introduced into the power supply by use of the modulation current.

The Office Action also rejects Claims 12-13 and 18 under 35 U.S.C. 103(a) as allegedly being unpatentable over Tsai in view of U.S. Patent Application No. 2004/0101007 (Bozso) stating that it would have been obvious to combine the laser driver of Tsai with the CMOS circuit of Bozso in order to reduce power consumption when the gates are not being switched and in order to take advantage of the VCSEL's high coupling efficiency with optical fibers.

Applicant disagrees, but in light of the deficiencies of Tsai and being respectful of the Examiner's time, Applicant reserves the right to present arguments at a later time if the rejections are maintained.

Therefore, Applicant respectfully submits that Claims 1-2, 4-5, 7, 9-10, 14, 16-17 and 19-20 are patently distinguished over the art cited by the Examiner. Applicant further believes that Claims 3, 6 and 12-13 and 18 being dependent therefrom are also patentable.

In accordance with the above arguments, Applicant respectfully submits that Claims 1-21 are presently in condition for allowance and such action is earnestly solicited.

CONCLUSION

Applicant respectfully submits the present claims for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Lawrence M. Mennemeier at (408) 765-2194.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

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